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# Chimney Safety Alert

- Last Updated (Friday, 03 November 2006)

Consumer Product Safety Commission Chimneys: Safety Alert CPSC Document #5017 In 1982, wood-burning appliances accounted for more fires, more fire deaths, and greater property damage than any other kind of heating fuel -- about 140,000 fires, 250 deaths and \$257 million in property damage. These losses represented 20 percent of all residential fires in the U.S., 5 percent of all fire deaths, and 8 percent of estimated property damage. CPSC research indicates that most wood heating fires involve the chimney and not the appliance itself. The majority of these fires are contained within the chimney and cause no damage to the house. The Commission is concerned, however, not only about the chimney fires that did ignite other parts of the house, but also about the potential future hazard from the continued use of chimneys whose structural integrity has been compromised by a chimney fire. This is especially true in light of the fact that many contained chimney fires are not reported to the fire services; in fact, consumers may not even be aware that a chimney fire has occurred. Therefore, the Consumer Product Safety Commission is issuing a special safety alert concerning chimneys used with woodburning stoves, fireplaces, and fireplace inserts. The Commission urgently warns consumers to be aware of the potential fire hazards associated with these chimneys. Now that the nation has entered the heating season, the Commission strongly urges you, if you have a stove or fireplace, to check the chimney for any damage that may have occurred in the past heating season. If it is difficult to examine the chimney, a local chimney repairman, chimney "sweep," or dealer can help. Have any damage repaired NOW. Most fires involving either masonry or prefabricated metal chimneys occur because of improper installation, use or maintenance. The Commission staff has identified the following common causes of fires:

- Improper chimney installation too close to wood framing.
- Installation of thermal insulation too close to the chimney.
- Improperly passing the stovepipe or chimney through a ceiling or wall, causing ignition of wood framing.
- Structural damage to the chimney caused by the ignition of creosote (a black tar-like substance that builds up inside the chimney in normal use). Structural damage to metal prefabricated chimneys that results in wood framing being exposed to excessive temperatures or leakage of potentially toxic gases to the interior of the home can take the following forms:

- Corrosion or rusting of the inner liners of metal chimneys.
- Buckling, separation of the seam, or collapsing of the inner liner of metal chimneys. (This can result from too hot a fire, especially in high-efficiency stoves and in fireplace inserts, or from a creosote fire.) Structural damage also occurs in masonry chimneys, often associated with deterioration or improper installation of the chimney. The tile inner liner and the surrounding brick or block structure may crack and separate, perhaps as a result of the ignition of creosote that has built up in the chimney. Many old chimneys do not have a tile liner. If your chimney does not have a liner, the addition of a properly installed liner is advisable. Also, a clay liner should be sealed with refractory cement. Even when the heating appliance is properly installed, people with either metal or masonry chimney systems should frequently check the chimney for creosote deposits, soot build-up, or physical damage. This involves only a simple visual examination, but it should be done as often as twice a month during heavy use. If you see heavy creosote buildup, suspect a problem, or have had a chimney fire, a qualified chimney repairman or chimney "sweep" should perform a complete safety inspection. They can arrange for any necessary repairs or creosote removal, which must be done before the heating appliance is used again. There are products now available which, according to recent tests conducted by independent laboratories, show promise for reducing the production of creosote and harmful pollutant emissions. Advance wood stove designs appear to provide more complete combustion of the fuel. Catalytic combustors appear to achieve similar results, and are available with new stoves or as separate components which can be installed between the flue gas exit and the chimney connector of existing stoves. The Commission advises owners of all chimneys to:

- Be sure that the chimney and stovepipe were installed correctly in accordance with the manufacturer's recommendations and local codes. If there is any doubt, a building inspector or fire official can determine whether the system is properly installed.
- Minimize creosote formation by using proper stove size and avoiding using low damper settings for extended periods of time.
- Have the chimney checked and cleaned routinely by a chimney "sweep" at least once a year. Inspect it frequently, as often as twice a month if necessary, and clean when a creosote buildup is noted.
- Always operate your appliance within the manufacturer's recommended temperature limits. Too low a temperature increases creosote buildup, and too high a temperature may eventually cause damage to the chimney and result in a fire.
- Frequently look for signs of structural failure. If you have had a fire or other safety problem with your chimney, or would like additional information, call the Commission's toll-free Hotline 800-638-CPSC.